

**What is claimed is:**

1. Process for producing multi-component mineral substance  
5 preparations free of harmful substances comprising the following steps:
  - a. Primary thermo-oxidative treatment of organic raw materials, of plant or animal origin, in a primary temperature treatment zone
  - 10 b. Transport of the product of the primary thermo-oxidative treatment to a second temperature treatment zone
  - c. Secondary thermo-oxidative treatment of the product of the primary thermo-oxidative treatment in a second temperature treatment zone
- 15 2. Process according to claim 1, characterized in that the primary oxidation is carried out at a temperature of between 500°C and 3000°C, preferably between 600°C and 1200°C.
- 20 3. Process according to at least one of the previously made claims, characterized in that the secondary thermo-oxidative treatment is performed at a higher temperature than the primary thermo-oxidative treatment, typically at least 10°C, preferably at least 30°C and especially preferably at least 50°C above the temperature of the primary thermo-oxidative treatment.
- 25 4. Process according to at least one of the aforementioned claims, characterized in that the product of the secondary thermo-oxidative treatment is mechanically crushed or ground.
- 30 5. Process according to at least one of the aforementioned claims, characterized in that as organic raw materials either

of plant or animal origin, plants or parts of plants and/or parts of animals are used, comprising all vegetables and fruit, grasses, nutshells, in particular lemon peels, orange peels, grapefruit peels, grain brans, the remains of olives, 5 wood, stinging nettle, spinach, the remains of sugar beets, and similar.

10 6. Process according to at least one of the aforementioned claims, characterized in that the secondary thermo-oxidative treatment is carried out continually or quasi-continually.

15 7. Process according to at least one of the aforementioned claims, characterized in that the secondary thermo-oxidative treatment is carried out using enriched or pure oxygen and/or steam.

20 8. Process according to at least one of the aforementioned claims, characterized in that the grinding process is carried out under dry and/or wet conditions.

9. Process according to at least one of the aforementioned claims, characterized in that the ground substance is put into a diluted environment and an organic acid is added.

25 10. Process according to at least one of the aforementioned claims, characterized in that citric acid and/or malic acid and/or lactic acid as well as mixtures of similar acids is added to the ground substance.

30 11. Use of mineral substance preparations, producible or produced according to at least one of the claims 1 - 8 as a nutritional supplement, food additive, beauty aid, medication, wherein intake can be in particular either in oral, inhalative, intravenous, rectal or topical form.